WHAT IS CLAIMED IS:

1. (Amended) A gas separator for fuel cells, said fuel cells being constructed as a laminate of plural members including an electrolyte layer and electrode layers, said gas separator being included in said fuel cells as one of said plural members and having predetermined rugged shapes that are formed in both faces to define a flow path of a fluid passing through inside said fuel cells,

wherein two thin plates with the predetermined rugged shapes formed in respective one faces thereof are bonded to each other across the respective other faces thereof to form said gas separator,

said gas separator comprising a member that is located in a space defined by the predetermined rugged shapes between said two thin plates to be in contact with said two thin plates.

2. (Amended) A gas separator for fuel cells in accordance with claim 1, wherein said member is mainly composed of an electrically conductive material.

3. (Amended) A gas separator for fuel cells in accordance with claim 1, wherein said member is mainly composed of a thermally conductive material.

4. (Amended) A gas separator for fuel cells in accordance with ~~any one of claims 1 through 3~~ claim 1, wherein each of said thin plates is a metal thin

plate.

5. (Amended) A gas separator for fuel cells in accordance with ~~any one of claims 1 through 3~~ Claim 1, wherein the fluid passing through the flow path defined by the predetermined rugged shapes in said fuel cells is selected among a hydrogen-containing gaseous fuel, an oxygen-containing oxidizing gas, and a cooling fluid for cooling down the inside of said fuel cells.

6. (Amended) A gas separator for fuel cells in accordance with claim 4, wherein said thin plates are mainly composed of either one of stainless steel and aluminum.

7. A fuel cells stack receiving supplies of a hydrogen-containing gaseous fuel and an oxygen-containing oxidizing gas and generating an electromotive force through electrochemical reactions,

said fuel cells stack comprising gas separators for fuel cells in accordance with ~~any one of claims 1 through 6~~ Claim 1.

8. (Amended) A method of manufacturing a gas separator for fuel cells, said fuel cells being constructed as a laminate of plural members including an electrolyte layer and electrode layers, said gas separator being included in said fuel cells as one of said plural members and having predetermined rugged shapes that are formed in both faces to define a flow path of a fluid passing through inside said fuel cells,

said method comprising the steps of:

(a) providing two thin plates that have the predetermined rugged shapes formed in respective one faces thereof; and

(b) bonding said two thin plates to each other across the respective other faces thereof to form said gas separator,

wherein said step (b) comprises the step of:

(b-1) locating a predetermined member in a space defined by the predetermined rugged shapes between said two thin plates to be in contact with said two thin plates in the course of bonding said two thin plates to each other.

9. (Amended) A method in accordance with claim 8, wherein said predetermined member located between said two thin plates in said step (b-1) is an electrically conductive material.

10. (Amended) A method of manufacturing a gas separator for fuel cells, said fuel cells being constructed as a laminate of plural members including an electrolyte layer and electrode layers, said gas separator being included in said fuel cells as one of said plural members and having predetermined rugged shapes that are formed in both faces to define a flow path of a fluid passing through inside said fuel cells,

said method comprising the steps of:

(a) providing two thin plates;

(b) laying said two thin plates one upon the other via a material that forms a predetermined member and is interposed between said two thin plates; and

(c) press molding said two thin plates laid one upon the other in said step (b), so as to form the predetermined rugged shapes in surfaces of said two thin plates simultaneously with bonding said two thin plates to each other,

wherein said step (c) comprises the step of:

(c-1) forming said predetermined member in a space defined by the predetermined rugged shapes between said two thin plates to be in contact with said two thin plates.

11. A method in accordance with ~~any one of claims 8 through 10~~ Claim 8, wherein each of said thin plates is a metal thin plate.

12. (Amended) A gas separator for fuel cells, said fuel cells being constructed as a laminate of plural members including an electrolyte layer and electrode layers, said gas separator being included in said fuel cells as one of said plural members and having a predetermined rugged shape that is formed in surface thereof to define a flow path of a fluid passing through inside said fuel cells,

said gas separator comprising:

a separator base plate unit that is composed of a thin plate and has a plurality of apertures passing through a thickness of said separator base plate unit;

insert members that are mainly composed of an electrically conductive material and are respectively inserted into said plurality of apertures to form a convex structure on at least one face of said separator

base plate unit; and

a coat layer that is mainly composed of an electrically conductive material and covers over at least surface of said separator base plate unit and said insert members inserted into said separator base plate unit, which is in contact with an adjacent member adjoining to said gas separator in said fuel cells.

13. A fuel cells stack receiving supplies of a hydrogen-containing gaseous fuel and an oxygen-containing oxidizing gas and generating an electromotive force through electrochemical reactions,

said fuel cells stack comprising gas separators for fuel cells in accordance with claim 12.

14. (Amended) A method of manufacturing a gas separator for fuel cells, said fuel cells being constructed as a laminate of plural members including an electrolyte layer and electrode layers, said gas separator being included in said fuel cells as one of said plural members and having a predetermined rugged shape that is formed in surface thereof to define a flow path of a fluid passing through inside said fuel cells,

said method comprising the steps of:

(a) providing a separator base plate unit composed of a thin plate;

(b) perforating said separator base plate unit at predetermined positions to form a plurality of apertures passing through a thickness of said separator base plate unit;

(c) inserting insert members, which are mainly composed of an

electrically conductive material, respectively into said plurality of apertures, so as to form the predetermined rugged shape in surface of said separator base plate unit; and

(d) forming a coat layer that is mainly composed of an electrically conductive material and covers over at least surface of said separator base plate unit and said insert members inserted into said separator base plate unit, which is in contact with an adjacent member adjoining to said gas separator in said fuel cells.

15. A method in accordance with claim 14, wherein each of said plurality of apertures and said insert members inserted therein have substantially circular cross sections.

16. (Added) A method in accordance with claim 8, wherein said predetermined member located between said two thin plates in said step (b-1) is a thermally conductive material.

17. (Added) A method in accordance with claim 10, wherein the material that forms said predetermined member is an electrically conductive material.

18. (Added) A method in accordance with claim 10, wherein the material that forms said predetermined member is a thermally conductive material.

19. (Added) A method in accordance with ~~any one of claims 16 through 18~~ Claim 16, wherein each of said thin plates is a metal thin plate.

20. (Added) A method in accordance with ~~any one of claims 11 through 18~~ Claim 11, wherein said thin plates are mainly composed of either one of stainless steel and aluminum.

21. (Added) A gas separator for fuel cells, said fuel cells being constructed as a laminate of plural members including an electrolyte layer and electrode layers, said gas separator being included in said fuel cells as one of said plural members and having a predetermined rugged shape that is formed in surface thereof to define a flow path of a fluid passing through inside said fuel cells,

said gas separator comprising:

a separator base plate unit that is composed of a thin plate and has a plurality of apertures passing through a thickness of said separator base plate unit;

insert members that are mainly composed of an electrically conductive material and are respectively inserted into said plurality of apertures to form a convex structure on at least one face of said separator base plate unit; and

a coat layer that covers over at least surface of said separator base plate unit and said insert members inserted into said separator base plate unit, which forms the flow path of the fluid in said fuel cells.

22. (Added) A fuel cells stack receiving supplies of a hydrogen-containing gaseous fuel and an oxygen-containing oxidizing gas and generating an electromotive force through electrochemical reactions,

said fuel cells stack comprising gas separators for fuel cells in accordance with claim 21.

23. (Added) A method of manufacturing a gas separator for fuel cells, said fuel cells being constructed as a laminate of plural members including an electrolyte layer and electrode layers, said gas separator being included in said fuel cells as one of said plural members and having a predetermined rugged shape that is formed in surface thereof to define a flow path of a fluid passing through inside said fuel cells,

said method comprising the steps of:

(a) providing a separator base plate unit composed of a thin plate;

(b) perforating said separator base plate unit at predetermined positions to form a plurality of apertures passing through a thickness of said separator base plate unit;

(c) inserting insert members, which are mainly composed of an electrically conductive material, respectively into said plurality of apertures, so as to form the predetermined rugged shape in surface of said separator base plate unit; and

(d) forming a coat layer that covers over at least surface of said separator base plate unit and said insert members inserted into said separator base plate unit, which forms the flow path of the fluid in said fuel cells.

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